

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Keiji Kanota et al.
Serial No. : 09/978,610
Filed : October 16, 2001
Title : COPY CONTROL FOR A VIDEO SIGNAL WITH COPYRIGHT
SIGNALS SUPERIMPOSED AS PREDETERMINED BITS IN
THE VBID DATA OF THE VIDEO SIGNAL
Examiner : Lee, Y. Young
Art Unit : 2621
Confirmation No. : 5130

APPENDIX

86. (Currently Amended) A method of processing a video signal to selectively permit copying thereof, said video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking identifying (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that predetermined bits of said associated plural-bit data or data flags represent different information as a function of the classification by said plural-bit mode number, said method comprising the steps of generating copyright information data indicative of whether the viewable picture is subject to copyright; generating copy generation data indicative of the number of successive generations of copies that can be made from the processed video signal; said plural-bit mode number, said copyright information data and said copy generation data being superposed in

VBID data in the same line interval; and setting said predetermined bits as the copyright information data and the copy generation data when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, thereby to produce said processed video signal.

87-90. (Canceled)

91. (Previously Presented) The method of claim 86 wherein said copy generation signal is a plural bit signal.

92. (Currently Amended) A video signal record medium having recorded thereon a video signal comprised of line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking identifying (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags, wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, predetermined bits of the associated plural-bit data flags represent copyright information and copy generation information, and when said plural-bit mode number classifies said associated plural-bit data or data flags as data, said predetermined bits represent other information; copyright information data indicative of whether the viewable picture is subject to copyright; and copy generation information indicative of the number of successive generations of copies that can be made from the recorded video signal, said copyright information and copy generation information being said predetermined bits in said non-picture portion; and said plural-bit mode number, said copyright

information data and said copy generation information being superposed in VBID data in the same line interval.

93-96. (Canceled)

97. (Previously Presented) The record medium of claim 92 wherein said copy generation signal is a plural bit signal.

98. (Currently Amended) A method of recording a video signal that may be selectively copied, said video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking identifying (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that predetermined bits of said associated plural-bit data or data flags represent different information as a function of the classification by said plural-bit mode number, said method comprising the steps of generating copyright information data indicative of whether the viewable picture is subject to copyright; generating copy generation data indicative of the number of successive generations of copies that can be made from the video signal; said plural-bit mode number, said copyright information data and said copy generation data being superposed in VBID data in the same line interval; setting said predetermined bits as the copyright information data and the copy generation data when said plural-bit mode number classifies said associated plural-bit data or

data flags as flags, thereby to produce a processed video signal; and recording said processed video signal on a record medium.

99-102. (Canceled)

103. (Previously Presented) The method of claim 98 wherein said copy generation signal is a plural bit signal.

104. (Currently Amended) A method of selectively recording a video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking identifying (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags, wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, predetermined bits of the associated plural-bit data flags represent copyright information indicative of whether the viewable picture is subject to copyright and copy generation information indicative of the number of successive generations of copies that can be made from the video signal, and when said plural-bit mode number classifies said associated plural-bit data or data flags as data, said predetermined bits represent other information, said method comprising the steps of detecting said copyright information and said copy generation information; modifying the predetermined bits to indicate a decremented number of successive generations of copies that can be made from the video signal if said copyright information indicates that the viewable picture is subject to copyright; recording

the video signal having said plural-bit mode number, said copyright information and said modified copy generation information superposed in said VBID data in the same line interval; and selectively inhibiting the recording of the video signal when said copyright information indicates that said viewable picture is subject to copyright and the detected copy generation information indicates that no successive generations of copies may be made from the video signal.

105. (Previously Presented) The method of claim 104 wherein said step of modifying the predetermined bits comprises generating new copy generation information indicative of one less than the number of successive generations of copies which are indicated by the detected copy generation information, and superposing said new copy generation information in said VBID data of the video signal.

106. (Previously Presented) The method of claim 105 further comprising the steps of regenerating the detected copyright information, and superposing said regenerated copyright information in said VBID data of the video signal.

107-110. (Canceled)

111. (Previously Presented) The method of claim 104 wherein said copy generation signal is a plural bit signal.

112. (Currently Amended) A method of reproducing a video signal containing line intervals and having an effective picture portion and a non-picture portion and containing copy protection information representing whether a video picture derived from said video signal is subject to copyright and whether successive generations of copies can be made from said video signal, said method comprising the steps of playing back said video signal from a record medium; detecting said copy protection information in the played back video signal; generating copyright information data indicative of whether said video picture is subject to copyright; generating copy generation data indicative of the number of successive generations of copies that can be made from said played back video signal; setting both said copyright information data and said copy generation data as predetermined bits of plural-bit data flags which are associated with and classified by a plural-bit mode number, said plural-bit data flags and plural-bit mode number being included in the same line interval of vertical blanking identifying (VBID) data, and said predetermined bits being used to represent other information as a function of the classification of said plural-bit data flags by said plural-bit mode number; and disposing said VBID data in the non-picture portion of said played back video signal.

113-116. (Canceled)

117. (Previously Presented) The method of claim 112 wherein said copy generation signal is a plural bit signal.

118. (Previously Presented) The method of claim 112 wherein said copy protection information comprises recorded copyright information data and recorded copy generation data, both included

in VBID data in the non-picture portion of the video signal on said record medium, and both being detected to cause the detected copyright information data and copy generation data to be set as said predetermined bits in the VBID data of said played back video signal.

119. (Currently Amended) Apparatus for processing a video signal to selectively permit copying thereof, said video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking identifying (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that predetermined bits of said associated plural-bit data or data flags represent different information as a function of the classification by said plural-bit mode number, said apparatus comprising means for generating copyright information data indicative of whether the viewable picture is subject to copyright; means for generating copy generation data indicative of the number of successive generations of copies that can be made from the processed video signal; said plural-bit mode number, said copyright information data and said copy generation data being superposed in VBID data in the same line interval and means for setting said predetermined bits as the copyright information data and the copy generation data when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, thereby to produce said processed video signal.

120-123. (Canceled)

124. (Previously Presented) The apparatus of claim 119 wherein said copy generation signal is a plural bit signal.

125. (Currently Amended) Apparatus for recording a video signal that may be selectively copied, said video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking identifying (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that predetermined bits of said associated plural-bit data or data flags represent different information as a function of the classification by said plural-bit mode number, said apparatus comprising means for generating copyright information data indicative of whether the viewable picture is subject to copyright; means for generating copy generation data indicative of the number of successive generations of copies that can be made from the video signal; said plural-bit mode number, said copyright information data and said copy generation data being superposed in VBID data in the same line interval; means for setting said predetermined bits as the copyright information data and the copy generation data when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, thereby to produce a processed video signal; and means for recording said processed video signal on a record medium.

126-129. (Canceled)

130. (Previously Presented) The apparatus of claim 125 wherein said copy generation signal is a plural bit signal.

131. (Currently Amended) Apparatus for selectively recording a video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking identifying (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags, wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, predetermined bits of the associated plural-bit data flags represent copyright information indicative of whether the viewable picture is subject to copyright and copy generation information indicative of the number of successive generations of copies that can be made from the video signal, and when said plural-bit mode number classifies said associated plural-bit data or data flags as data, said predetermined bits represent other information, said apparatus comprising means for detecting said copyright information and said copy generation information; means for modifying the predetermined bits to indicate a decremented number of successive generations of copies that can be made from the video signal if said copyright information indicates that the viewable picture is subject to copyright; means for recording the video signal having said plural-bit mode number, said copyright information and said modified copy generation information superposed in said VBID data in the same line interval; and means for selectively inhibiting the recording of the video signal when said copyright information indicates that said viewable picture is subject to

copyright and the detected copy generation information indicates that no successive generations of copies may be made from the video signal.

132. (Previously Presented) The apparatus of claim 131 wherein said means for modifying the predetermined bits comprises means for generating new copy generation information indicative of one less than the number of successive generations of copies which are indicated by the detected copy generation information, and means for superposing said new copy generation information in said VBID data of the video signal.

133. (Previously Presented) The apparatus of claim 132 wherein said means for recording includes means for regenerating the detected copyright information, and means for superposing said regenerated copyright information in said VBID data of the video signal prior to the recording of said video signal.

134-137. (Canceled)

138. (Previously Presented) The apparatus of claim 131 wherein said copy generation signal is a plural bit signal.

139. (Currently Amended) Apparatus for reproducing a video signal containing line intervals and having an effective picture portion and a non-picture portion and containing copy protection information representing whether a video picture derived from said video signal is subject to copyright and whether successive generations of copies can be made from said video signal, said

apparatus comprising means for playing back said video signal from a record medium; means for detecting said copy protection information in the played back video signal; means for generating copyright information data indicative of whether said video picture is subject to copyright; means for generating copy generation data indicative of the number of successive generations of copies that can be made from said played back video signal; means for setting both said copyright information data and said copy generation data as predetermined bits of plural-bit data flags which are associated with and classified by a plural-bit mode number, said plural-bit data flags and plural-bit mode number being ~~included~~ superposed in vertical blanking identifying (VBID) data in the same line interval, and said predetermined bits being used to represent other information as a function of the classification of said plural-bit data flags by said plural-bit mode number; and disposing said VBID data in the non-picture portion of said played back video signal.

140-143. (Canceled)

144. (Previously Presented) The apparatus of claim 139 wherein said copy generation signal is a plural bit signal.

145. (Currently Amended) The apparatus of claim 139 wherein said copy protection information comprises recorded copyright information data and recorded copy generation data, both included in the same line interval in VBID data in the non-picture portion of the video signal on said record medium, and said means for detecting is operable to detect both said copyright information data and copy generation data in the played back video signal; and said means for

setting is operable to set as said predetermined bits the detected copyright information data and copy generation data in the VBID data of said played back video signal.

146. (Currently Amended) A method of processing a video signal to selectively permit copying thereof, said video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking interval (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that predetermined bits of said associated plural-bit data or data flags represent different information as a function of the classification by said plural-bit mode number, said method comprising the steps of generating copyright information data indicative of whether the viewable picture is subject to copyright; generating copy generation data indicative of whether or not at least one successive generation of copies can be made from the processed video signal when the copyright information data indicates the viewable picture is subject to copyright; and setting said predetermined bits as the copyright information data and the copy generation data when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, said plural-bit mode number, said copyright information data and said copy generation data being superposed in VBID data in the same line interval, thereby to produce said processed video signal.

147. (Canceled)

148. (Currently Amended) A video signal record medium having recorded thereon a video signal comprised of line intervals, including an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking interval (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags, wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, predetermined bits of the associated plural-bit data flags represent copyright information and copy generation information, and when said plural-bit mode number classifies said associated plural-bit data or data flags as data, said predetermined bits represent other information; copyright information data indicative of whether the viewable picture is subject to copyright; and copy generation information indicative of whether or not at least one successive generation of copies can be made from the recorded video signal when the copyright information data indicates the viewable picture is subject to copyright, said copyright information data and copy generation information being said predetermined bits superposed, along with said plural-bit mode number, in VBID data in the same line interval in said non-picture portion.

149. (Canceled)

150. (Currently Amended) A method of recording a video signal that may be selectively copied, said video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking interval (VBID) data comprised of a plural-bit mode

number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that predetermined bits of said associated plural-bit data or data flags represent different information as a function of the classification by said plural-bit mode number, said method comprising the steps of generating copyright information data indicative of whether the viewable picture is subject to copyright; generating copy generation data indicative of whether or not at least one successive generation of copies can be made from the video signal when the copyright information data indicates the viewable picture is subject to copyright; setting said predetermined bits as the copyright information data and the copy generation data when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, said plural-bit mode number, said copyright information data and said copy generation data being superposed in VBID data in the same line interval, thereby to produce a processed video signal; and recording said processed video signal on a record medium.

151. (Canceled)

152. (Currently Amended) A method of selectively recording a video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking interval (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags, wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, predetermined bits of the associated plural-

bit data flags represent copyright information indicative of whether the viewable picture is subject to copyright and copy generation information indicative of whether or not at least one successive generation of copies can be made from the video signal when the copyright information data indicates the viewable picture is subject to copyright, and when said plural-bit mode number classifies said associated plural-bit data or data flags as data, said predetermined bits represent other information, said method comprising the steps of detecting said copyright information and said copy generation information; modifying the predetermined bits to indicate a decremented number of successive generations of copies that can be made from the video signal if said copyright information indicates that the viewable picture is subject to copyright; recording the video signal having said plural-bit mode number, said copyright information and said modified copy generation information superposed in said VBID data in the same line interval; and selectively inhibiting the recording of the video signal when said copyright information indicates that said viewable picture is subject to copyright and the detected copy generation information indicates that no successive generations of copies may be made from the video signal.

153. (Previously Presented) The method of claim 152 wherein said step of modifying the predetermined bits comprises generating new copy generation information indicative of one less than the number of successive generations of copies which are indicated by the detected copy generation information, and superposing said new copy generation information in said VBID data of the video signal.

154. (Previously Presented) The method of claim 153 further comprising the steps of regenerating the detected copyright information, and superposing said regenerated copyright information in said VBID data of the video signal.

155. (Canceled)

156. (Currently Amended) A method of reproducing a video signal containing line intervals and having an effective picture portion and a non-picture portion and containing copy protection information representing whether a video picture derived from said video signal is subject to copyright and whether at least one successive generation of copies can be made from said video signal when the copy protection information indicates the viewable picture is subject to copyright, said method comprising the steps of playing back said video signal from a record medium; detecting said copy protection information in the played back video signal; generating copyright information data indicative of whether said video picture is subject to copyright; generating copy generation data indicative of whether or not least one successive generation of copies can be made from said played back video signal when the copyright information data indicates the viewable picture is subject to copyright; setting both said copyright information data and said copy generation data as predetermined bits of plural-bit data flags which are associated with and classified by a plural-bit mode number, said plural-bit data flags and plural-bit mode number being included in vertical blanking interval (VBID) data in the same line interval, and said predetermined bits being used to represent other information as a function of the classification of said plural-bit data flags by said plural-bit mode number; and disposing said VBID data in the non-picture portion of said played back video signal.

157. (Canceled)

158. (Previously Presented) The method of claim 156 wherein said copy protection information comprises recorded copyright information data and recorded copy generation data, both included in VBID data in the non-picture portion of the video signal on said record medium, and both being detected to cause the detected copyright information data and copy generation data to be set as said predetermined bits in the VBID data of said played back video signal.

159. (Currently Amended) Apparatus for processing a video signal to selectively permit copying thereof, said video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking interval (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that predetermined bits of said associated plural-bit data or data flags represent different information as a function of the classification by said plural-bit mode number, said apparatus comprising means for generating copyright information data indicative of whether the viewable picture is subject to copyright; means for generating copy generation data indicative of whether or not at least one successive generation of copies can be made from the processed video signal when the copyright information data indicates the viewable picture is subject to copyright, said plural-bit mode number, said copyright information data and said copy generation data being superposed in said VBID data in the same line interval; and means for setting said predetermined bits as the

copyright information data and the copy generation data when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, thereby to produce said processed video signal.

160. (Canceled)

161. (Currently Amended) Apparatus for recording a video signal that may be selectively copied, said video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking interval (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that predetermined bits of said associated plural-bit data or data flags represent different information as a function of the classification by said plural-bit mode number, said apparatus comprising means for generating copyright information data indicative of whether the viewable picture is subject to copyright; means for generating copy generation data indicative of whether or not at least one successive generation of copies can be made from the video signal when the copyright information data indicates the viewable picture is subject to copyright; said plural-bit mode number, said copyright information data and said copy generation data being superposed in said VBID data in the same line interval; means for setting said predetermined bits as the copyright information data and the copy generation data when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, thereby to produce a processed video signal; and means for recording said processed video signal on a record medium.

162. (Canceled)

163. (Currently Amended) Apparatus for selectively recording a video signal containing line intervals and having an effective picture portion containing useful picture information from which a viewable picture is displayed and a non-picture portion in which is disposed vertical blanking interval (VBID) data comprised of a plural-bit mode number and associated plural-bit data or data flags wherein said plural-bit mode number selectively classifies said associated plural-bit data or data flags as data or flags such that when said plural-bit mode number classifies said associated plural-bit data or data flags as flags, predetermined bits of the associated plural-bit data flags represent copyright information indicative of whether the viewable picture is subject to copyright and copy generation information indicative of whether or not at least one successive generation of copies can be made from the video signal when the copyright information data indicates the viewable picture is subject to copyright, and when said plural-bit mode number classifies said associated plural-bit data or data flags as data, said predetermined bits represent other information, said apparatus comprising means for detecting said copyright information and said copy generation information; means for modifying the predetermined bits to indicate a decremented number of successive generations of copies that can be made from the video signal if said copyright information indicates that the viewable picture is subject to copyright; means for recording the video signal having said plural-bit mode number, said copyright information and said modified copy generation information superposed in said VBID data in the same line interval; and means for selectively inhibiting the recording of the video signal when said copyright information indicates that said viewable picture is subject to

copyright and the detected copy generation information indicates that no successive generations of copies may be made from the video signal.

164. (Previously Presented) The apparatus of claim 163 wherein said means for modifying the predetermined bits comprises means for generating new copy generation information indicative of one less than the number of successive generations of copies which are indicated by the detected copy generation information, and means for superposing said new copy generation information in said VBID data of the video signal.

165. (Previously Presented) The apparatus of claim 164 wherein said means for recording includes means for regenerating the detected copyright information, and means for superposing said regenerated copyright information in said VBID data of the video signal prior to the recording of said video signal.

166. (Canceled)

167. (Currently Amended) Apparatus for reproducing a video signal containing line intervals and having an effective picture portion and a non-picture portion and containing copy protection information representing whether a video picture derived from said video signal is subject to copyright and whether at least one successive generation of copies can be made from said video signal, said apparatus comprising means for playing back said video signal from a record medium; means for detecting said copy protection information in the played back video signal; means for generating copyright information data indicative of whether said video picture is

subject to copyright; means for generating copy generation data indicative of whether or not at least one successive generation of copies can be made from said played back video signal when the copyright information data indicates the viewable picture is subject to copyright; means for setting both said copyright information data and said copy generation data as predetermined bits of plural-bit data flags which are associated with and classified by a plural-bit mode number, said plural-bit data flags and plural-bit mode number being ~~included-superposed~~ included in vertical blanking interval (VBID) data in the same line interval, and said predetermined bits being used to represent other information as a function of the classification of said plural-bit data flags by said plural-bit mode number; and means for disposing said VBID data in the non-picture portion of said played back video signal.

168. (Canceled)

169. (Previously Presented) The apparatus of claim 167 wherein said copy protection information comprises recorded copyright information data and recorded copy generation data, both included in VBID data in the non-picture portion of the video signal on said record medium, and said means for detecting is operable to detect both said copyright information data and copy generation data in the played back video signal; and said means for setting is operable to set as said predetermined bits the detected copyright information data and copy generation data in the VBID data of said played back video signal.

170. (Currently Amended) A method of processing a video signal to selectively permit copying thereof, said video signal containing line intervals and having vertical blanking interval data

(VBID) disposed in a predetermined line in a non-effective picture portion that includes two bits to indicate whether the video signal permits copying or not, said two bits being in the same line interval, said method comprising the steps of

generating one of the two bits indicative of whether the viewable picture in an effective picture portion is subject to copyright, and

generating the other of the two bits indicative of whether or not at least one successive generation of copies can be made from the processed video signal when the one of the two bits indicates the viewable picture is subject to copyright.